

AMENDMENTS TO THE CLAIMS

1. (CANCELED).

2. (CANCELED).

3. (ORIGINAL) A method for determining an environmental condition, comprising measuring a composition of a microbial population which has been exposed to said environmental condition, correlating said composition to a previously compiled reference data file of a plurality of compositions obtained through exposure of said microbial population to a plurality of environmental conditions and determining said environmental condition on the basis of the outcome of said correlation.

4. (CURRENTLY AMENDED) A method according to claim ~~1~~3, wherein said microbial population comprises bacteria, fungi and/or yeasts.

5. (CURRENTLY AMENDED) A method according to ~~claims~~claim 4, ~~14 and 15~~, wherein said microbial population is intestinal flora or soil flora.

6. (CURRENTLY AMENDED) A method according to ~~claims~~claim 4, ~~14 and 15~~, wherein said microbial population is a microbial population introduced into or occurring naturally in a specific process.

7. (CURRENTLY AMENDED) A method according to claim 13, wherein said measurement comprises the use of taxon-specific markers.

8. (ORIGINAL) A method according to claim 7, wherein said taxon-specific markers are nucleic acid markers.

9. (PREVIOUSLY PRESENTED) A method according to claim 7, wherein said composition of a microbial population is determined by means of one or more microarrays.

10. (CURRENTLY AMENDED) A method for controlling or monitoring an environmental condition, comprising a method according to claim 13.

11. (ORIGINAL) A method for controlling a process, comprising a method according to claim 10.

12. (CURRENTLY AMENDED) Use of a method according to claim 13, for quality control of water, for control of a food preparation process, for optimization of crop cultivation, for the optimization of biodegradation in the soil, for the detection of soil pollution or for the detection of undesired microorganisms.

13. (CURRENTLY AMENDED) Use of a method according to claim 13, for determining a chemical substance in the soil, the air and/or in aqueous environmental.

14. (CANCELED).

15. (CANCELED).

16. (PREVIOUSLY PRESENTED) A method according to claim 4, wherein said measurement comprises the use of taxon-specific markers.

17. (CANCELED).

18. (CANCELED).

19. (CANCELED).

20. (CANCELED).

21. (PREVIOUSLY PRESENTED) A method according to claim 8, wherein said composition of a microbial population is determined by means of one or more microarrays.

22. (CANCELED).

23. (CANCELED).

24. (CANCELED).

25. (CANCELED).

26. (CANCELED).

27. (PREVIOUSLY PRESENTED) A method for controlling or monitoring an environmental condition, comprising a method according to claim 3.

28. (CANCELED).

29. (PREVIOUSLY PRESENTED) A method for controlling a process, comprising a method according to claim 27.

30. (CANCELED).

31. (PREVIOUSLY PRESENTED) Use of a method according to claim 3, for quality control of water, for control of a food preparation process, for optimization of crop cultivation, for the optimization of biodegradation in the soil, for the detection of soil pollution or for the detection of undesired microorganisms.

32. (CANCELED).

33. (PREVIOUSLY PRESENTED) Use of a method according to claim 3, for determining a chemical substance in the soil, the air and/or in aqueous environmental.